

MATERIAL SAFETY DATA SHEET

SRM Supplier: National Institute of Standards and Technology
Standard Reference Materials Program
Bldg. 202 Rm. 211
Gaithersburg, Maryland 20899

SRM Number: 193
MSDS Number: 193
SRM Name: Potassium Nitrate
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SECTION I. MATERIAL IDENTIFICATION

Material Name: Potassium Nitrate

Description: SRM 193 consists of highly purified and homogenous lot of crystalline potassium nitrate.

Other Designations: potassium salt; saltpeter; niter

| Name | Chemical Formula | CAS Registration Numbers |
|-------------------|------------------|--------------------------|
| Potassium Nitrate | KNO ₃ | 7757-79-1 |

DOT Classification: Oxidizer
ID#: UN 1486
class 5.1

Manufacturer/Supplier: Available from a number of suppliers

SECTION II. HAZARDOUS INGREDIENTS

| Hazardous Components | Nominal Concentration (%) | Exposure Limits and Toxicity Data |
|----------------------|---------------------------|---|
| Potassium Nitrate | ~ 100 | No TLV-TWA established.* |
| | | Rat, Oral: LD ₅₀ : 3750 mg/kg |
| | | Rabbit, Oral: LD ₅₀ : 1901 mg/kg |

*The suggested ACGIH TLV-TWA for particulates not otherwise regulated is 10 mg/m³ for total dust.

SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

| Potassium Nitrate |
|---|
| Appearance and Odor: Colorless, transparent prisms or a white granular powder. |
| Relative Molecular Mass: 101.10 |
| Density: 2.11 |
| Solubility in Water: Soluble. |
| Solvent Solubility: Soluble in alcohol and glycerol. |

Autoignition Temperature: N/A

Special Fire Procedures: Fire fighters should wear a self-contained breathing apparatus (SCBA) with a full face piece in the pressure demand or positive mode and other protective clothing.

SECTION V. REACTIVITY DATA

| | | | |
|----------------------------------|-------------------|-----------------|-----------------------|
| Hazardous Polymerization: | Will Occur | <u>X</u> | Will Not Occur |
|----------------------------------|-------------------|-----------------|-----------------------|

SECTION VI. HEALTH HAZARD DATA

| | |
|-----|----------|
| Yes | No |
| | <u>X</u> |

In the International Agency for Research (IARC) Monograph
By the Occupational Safety and Health Administration (OSHA)

— X
— X

Emergency and First Aid Procedures:

Skin Contact: Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for chemical irritations and treat them accordingly. Contact medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Contact medical assistance if necessary.

Inhalation: If inhaled, move the victim to fresh air. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration. Contact medical assistance if necessary.

Ingestion: If ingestion occurs, wash out mouth with water. **DO NOT** induce vomiting. Contact medical assistance if necessary.

TARGET ORGAN(S) OF ATTACK: The skin and digestive tract.

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in Case Material is Released or Spilled: Notify safety personnel of spills. Surfaces contaminated with spills should be covered with soda ash or sodium bicarbonate to neutralize the acid. Place the neutralized material into containers suitable for eventual disposal, reclamation or destruction.

Waste Disposal: Follow all federal, state and local laws governing disposal.

Handling and Storage: Provide general and local explosion proof ventilation systems to maintain airborne concentrations below the TLV. Provide approved respiratory apparatus for non routine or emergency use. Use an approved filter and vapor respirator when the vapor or mist concentrations are high. Wear gloves and chemical safety glasses where contact with the powder or crystalline form of this material. An eye wash station and washing facilities should be readily available near handling and use areas. Wash exposed skin areas several times a day with soap and warm water.

Note: Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

Store this material in its original bottle at room temperature. It must be tightly recapped after use and protected from moisture.

SECTION VIII. SOURCE DATA/OTHER COMMENTS

Sources: MDL Information Systems, Inc., MSDS *Potassium Nitrate*, August 10, 1996.
Genium Publishing Corporation, MSDS No. 205 *Potassium Nitrate*, January, 1987.
Hawley's Condensed Chemical Dictionary, 11th ed., 1987.
The American Heritage: Stedman's Medical Dictionary, 1995.
Webster's Ninth New Collegiate Dictionary, 1990.

Disclaimer: Physical and chemical data contained in this MSDS are provided only for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data on the MSDS. The certified values for this material are given on the NIST Certificate of Analysis.